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DUKE W. YEE
YEE AND ASSOCIATES, P.C.
P.O. BOX 802333
DALLAS, TX 75380

EXAMINER	
LOFTUS, ANN E	

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/008,731
Filing Date: November 07, 2001
Appellant(s): LIU ET AL.

Wayne P. Bailey (Reg. No. 34,289)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 9/30/08 appealing from the Office action mailed 4/1/08.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct. Claim 21 has been cancelled.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct. Note that CFR 41.37 (1) (v) requires only that references to the specification be cited, not that the references cited in this section be sufficient under 35 USC 112 to support the claim language. The specification's support for the claim language is addressed under the rejection and argument.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6272478	Obata	12-1997
20040064371	Crapo	1999
20020116237	Cohen	12-2000
6901373	Chasko	11-1999
5970476	Fahey	9-1996
6324523	Killeen et al.	9-1997

O'Sullivan, "Bringing Commercial Customers into Focus" ABA Banking Journal, (Dec 1997)

(9) Grounds of Rejection

The following grounds of rejection are applicable to the appealed claims.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1 and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The following language is not supported by the specification :

"Performing, using said computing device, association analysis for only said bank using only said bank's plurality of bank products and only said bank's plurality of existing banking customers; said association analysis not performed for any retail business using any retail customers or retail data related to any type of retail services or retail store."

The specification indicates that the method can be used with "any company in any industry that sells multiple products and services to consumers" in lines 11-12 on page 28. See also page 12 lines 8-11. Page 6 line 12 clarifies that existing and potential customers are included.

Further, the term "preferred products" is not supported by the specification. While it does say that major, important or strategic products would be included, there is no reference to how to tell if a product is major, important, or strategic. It may depend on the number of customers who hold the product, or its profitability or its history or its visibility to management. It may be entirely subjective. Given a criterion, a person of ordinary skill in the art may be able to determine the top product, but would not know where to draw the line. The recited language about preferred products are those purchased by customers who buy a minimum is not supported by the specification.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 11 recites "said computing device" in the third line. There is insufficient antecedent basis for this limitation in the claim.

As to claims 1 and 11 the specification refers to a retail bank in lines 10-11 on page 2. The claims then recite the limitations of applying to banking but not retail, yet the specification addresses customer demographics as though the customers were people and not wholesale businesses, thus implying retail. The metes and bounds of the claim are unclear.

The terms “preferred” and “strategic” are ill-defined as discussed above, and render the claims unclear.

The clause that begins with “storing” refers to storing and modifying the products themselves instead of the product codes. A change in a product code is not a change in a product, so this language is confusing.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over

- US Patent No. 6272478 filed 12/31/97 by Obata in view of
- US Patent Application 20040064371 filed based on provisionals from 1999 by Crapo in view of
- US Patent Application No. 20020116237 filed 12/18/2000 by Cohen and in view of
- US Patent No. 6901373 filed 11/12/99 by Chasko, and in view of
- An article by O' Sullivan titled Bringing Commercial Customers into Focus, published in December 1997 by the ABA Banking Journal, in view of
- US Patent 5970476 filed 9/1996 by Fahey and in view of
- US Patent No. 6324523 filed 9/30/97 by Killeen et al.

a. As to the following claim language,

Said computing device including a controller, a network interface, a profitability analysis device, a profit level categorization device, a data mining device, a cross selling opportunities recognition device, and a storage device; said controller, said network interface, said profitability analysis device, said profit level categorization device, said data mining device, said cross-selling opportunities recognition device and said storage device coupled together with using a control/data signal bus;

Obata teaches a data mining device in claim 1. Obata does not specifically teach a controller, a network interface, a storage device and a control/data signal bus. In paragraph 49 page 5, Crapo teaches a controller, a network interface, a storage device and a control/data signal bus. Crapo teaches a data mining device in paragraph 47 also on page 5. It would have been obvious to a person of ordinary skill in the art at the time

of the invention to modify Obata to add a controller, a network interface, a storage device and a control/data signal bus because they are reliable and easily available computer device components.

Obata teaches using the results of profitability analysis in col 8 line 56 to col 9 line 5. Obata does not explicitly mention a profitability analysis device. Fahey teaches in col 4 line 13 to col 5 line 52 a profit analysis device (product costing subsystem produces analysis of profitability in each product family.) It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Obata to explicitly teach a profitability analysis device in order to generate the results of profitability analysis above.

Obata teaches storing the product information in storage device in Figure 1, item 16 (database). Obata teaches in col 7 lines 40-52 highlighting “large profit” items and not displaying items whose profits fall below a threshold. Thus Obata teaches profit categorization into three levels – large, below threshold, and above threshold but less than large. Obata does not specifically teach profitability categorization of products, just associations. Chasko teaches profit level categorization of products in the abstract. A device that performs the function is implicit in the categorization. Thus Chasko teaches a profit level categorization device. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the Obata Crapo combination to include categorization of profit levels of products because it could be stored with the product information and used for other decision-making and not just cross-selling analysis.

The Obato Crapo Chasko combination does not specifically teach a cross-selling opportunities recognition device. Cohen teaches a cross-selling opportunities recognition device in claim 32. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the Obato Crapo Chasko combination to add a cross-selling opportunities recognition device because that is one of the known advantages of data-mining.

As it is the ordinary function of a control/data signal bus to couple devices together, it would have been obvious to a person of ordinary skill in the art to couple them with a control/data signal bus in order to use standard technology and avoid custom hardware platforms. Thus the Obato Crapo Chasko Cohen combination teaches the claim language cited above.

b. As to the next section of claim language,

performing association analysis for only said bank…existing banking customers,

Obata does not explicitly teach performing association analysis for only said bank. Cohen teaches in paragraph 3 page 1 that the analysis is done on sales data. It is implicit that a bank only keeps sales data for its own customers. A person of ordinary skill in the art would understand that for a bank to analyze sales data for cross-selling opportunities, they would analyze data for only said bank using only said bank's plurality of bank products and only said bank's plurality of existing banking customers because this is the most complete and the most relevant dataset available to the bank. It would have been obvious to a person of ordinary skill in the art at the time of the invention to

modify the Obato Crapo Chasko combination to add performing association analysis for only said bank and their existing products and customers because this dataset is the most likely to give relevant suggestions for cross-selling.

c. As to the next section of claim language,

"said association analysis not performed for any retail business…retail store"

Obata does not explicitly teach association analysis not performed for retail. O'Sullivan teaches in the section Re-envisioning Customers data mining for cross-selling opportunities which a person of ordinary skill in the art would interpret as association analysis. O'Sullivan teaches wholesale customers in this section, who are not retail. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the Obato Crapo Chasko combination with predictable results and a reasonable expectation of technical success to add association analysis not performed for any retail customers or retail data related to any type of retail services or retail store in order to identify cross-selling opportunities for this segment of bank customers.

d. As to the next section of claim language,

Said controller receiving via said network interface, a request for cross-selling opportunities identification; said controller initiating retrieval for each one of said plurality of existing banking customers from a bank's database of product information about said plurality of bank products, said initiating responsive to said receipt of said request;

The Obato Crapo Chasko combination does not specifically teach a request for cross-selling opportunities identification. Cohen teaches a request for cross-selling opportunities identification in claim 1. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the Obato Crapo Chasko combination to add a request for cross-selling opportunities identification because this would allow the system to use the most recent data to generate results when needed, as opposed to on a preset schedule.

The Obato Crapo Chasko combination does not specifically teach retrieval for each customer from a database of product information. Cohen teaches retrieval for each customer from a database of product information (sales data) in claim 16. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the Obato Crapo Chasko combination to teach retrieval of for each customer from a database of product information in order to get associations between customers and products that are useful for cross-selling.

As actions on a computer system occur in a controlled manner, it is inherent that a controller is involved in their initiation. Since a network interface is a computer system's link to the network, any requests coming from the network would pass through the network interface. Thus the Obato Crapo Chasko Cohen combination teaches the claim language cited above.

e. As to the next section of claim language,

Said bank losing money on particular ones of said plurality of products when said particular ones of said plurality of products are purchased by particular ones of said plurality of banking customers;

The specification page two lines 18-20 states "On average, credit card companies only start to make money in the third year of doing business with a customer," thus they lose money the first two years. And further, beginning line 32 " most banks do not make money from a large part of their customers for most products." Thus it was old and well-known at the time of the invention for banks to lose money on particular products bought by particular customers.

f. As to the next section of language,

Means for temporarily storing said product information in said storage device; said controller instructing said profitability analysis device to operate on said stored product information, said profitability analysis device analyzing said stored product information to identify strategic ones of said plurality of products to form preferred products, said preferred products being only said strategic ones of said plurality of products, said preferred products being ones of said plurality of products that are purchased by ones of said plurality of banking customers that purchase at least a minimum amount of said plurality of products; said profitability analysis device calculating a profit for each one of said preferred products and not calculating profit for ones of said plurality of products not identified as being one of said preferred products.

The Obato Crapo Chasko Cohen combination does not specifically teach temporarily storing product information in a storage device. Fahey teaches temporarily storing product information in a storage device in the abstract. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the

Obato Crapo Chasko Cohen combination to add temporarily storing product information in a storage device because that would make it available to analysis and reporting systems.

The Obato Crapo Chasko Cohen combination does not specifically teach a controller instructing said profitability analysis device to analyze said stored product information to identify strategic ones of said plurality of products. In Col 12 line 42 to col 13 line 30 Fahey teaches a profitability analysis device operating on stored product information. Inherent in the operation on a computer based device is the existence of an operation controller that instructed the process to begin. Fahey also teaches preferred or strategic (key) products in Col 12 line 42 to col 13 line 30. Thus Fahey teaches a controller instructing said profitability analysis device to analyze said stored product information to identify strategic ones of said plurality of products. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the Obato Crapo Chasko Cohen combination to add a controller instructing said profitability analysis device to analyze said stored product information to identify strategic ones of said plurality of products in order to allow focused analysis.

The Obato Crapo Chasko Cohen combination does not specifically teach not calculating profit for ones of said plurality of products not identified as being one of said preferred products. In Figure 10, item 390, Fahey teaches profitability of key products excluding other products. Thus Fahey teaches a controller instructing said profitability analysis device to operate on said stored product information, said profitability analysis device analyzing said stored product information to identify strategic ones of said

plurality of products to form preferred products, said profitability analysis device calculating a profit for each one of said preferred products and not calculating profit for ones of said plurality of products not identified as being one of said preferred products. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the Obato Crapo Chasko Cohen combination to add a controller instructing said profitability analysis device to operate on said stored product information, said profitability analysis device analyzing said stored product information to identify strategic ones of said plurality of products to form preferred products, said profitability analysis device calculating a profit for each one of said preferred products and not calculating profit for ones of said plurality of products not identified as being one of said preferred products because this focuses the analysis resources where they are most useful.

g. As to the next section of claim language,

> Means for categorizing based on said profit that was calculated for each one of said preferred products, each one of said preferred products into one of three levels, which are based on said bank's situation; said three levels of profitability indicating a high level of profitability, a medium level of profitability, and a low level of profitability, said low level of profitability indicating either low profitability or negative profitability when each one of said preferred products that is categorized into said low level of profitability is purchased.

Obata teaches in col 7 lines 40-52 highlighting "large profit" items and not displaying items whose profits fall below a threshold, Thus, Obata teaches profit categorization into three levels – large, below threshold, and above threshold but less

than large, which indicate high, medium and low profitability. Thus Obata teaches Means for categorizing based on said profit that was calculated for each one of said preferred products, each one of said preferred products into one of three levels, which are based on said bank's situation; said three levels of profitability indicating a high level of profitability, a medium level of profitability, and a low level of profitability, said low level of profitability indicating either low profitability or negative profitability when each one of said preferred products that is categorized into said low level of profitability is purchased.

h. As to the next section of claim language,

Each one of said preferred products having an assigned original product code; for each one of said preferred products: means for transforming said assigned original product code by embedding one of said three levels into said assigned original product code to form a new product code, said embedded one of said three levels being a level into which each one of said preferred products was categorized; means for transforming said original product code into said new product code by concatenating said original product code to form said new product code;

Obata teaches three levels of profitability. Obata does not specifically teach product codes. Fahey in Figure 4F teaches product codes (product data) that includes price and cost information. It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Obata and Fahey to make product codes that include three profit levels, because then the desirability of selling each product would be known by inspecting its code. Further, since the profit codes would be stored in a database (as per Fahey col 10 line 13), the database queries can be used to

embed or concatenate the data in any way desired. It would have been within ordinary logic and reasoning for a person of ordinary skill in the art at the time of the invention to query the database to retrieve the profitability level with product data to make a code, with predictable results and a reasonable expectation of success. Thus the Obata Crapo Chasko Cohen Fahey combination teaches each one of said preferred products having an assigned original product code; for each one of said preferred products: means for transforming said assigned original product code by embedding one of said three levels into said assigned original product code to form a new product code, said embedded one of said three levels being a level into which each one of said preferred products was categorized; means for transforming said original product code into said new product code by concatenating said original product code to form said new product code.

i. As to the next section of claim language,

> Means for storing each one of said preferred products with said new product code that is associated with said one of said preferred products to form modified preferred products; means for processing said modified preferred products to identify associations among said modified preferred products, said processing including performing data mining on said modified preferred products to generate a plurality of association rules based on past behavior of said plurality of banking customers;

The Obata Crapo Chasko Cohen combination does not specifically teach storing the product codes in a database. Fahey teaches storing the product codes in a database in col 10 line 13. It would have been obvious to a person of ordinary skill in the

art at the time of the invention to modify the Obata Crapo Chasko Cohen combination to store the product codes in a database because databases come with built-in backup features.

The Obata Crapo Chasko combination does not specifically teach processing products to identify associations among said modified preferred products, said processing including performing data mining on said modified preferred products to generate a plurality of association rules based on past behavior of said plurality of banking customers. On page 1 paragraph 15 and in Fig 2 Cohen teaches processing products to identify associations among said modified preferred products, said processing including performing data mining on said modified preferred products to generate a plurality of association rules based on past behavior of said plurality of banking customers (generating association rules). It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the Obata Crapo Chasko combination to process products to identify associations among said modified preferred products, said processing including performing data mining on said modified preferred products to generate a plurality of association rules based on past behavior of said plurality of banking customers in order to find out if there are populations who are particularly likely to buy preferred products.

j. As to the next section of claim language,

A particular one of said plurality of association rules associating a Visa Gold credit card with a housing loan, said particular one of said plurality of association rules including a support of .22, a confidence of 10.7, and a lift of 13.3; said particular one of said plurality of association rules, an

identification that a Visa Gold credit card is high profitability and an indication that a housing loan is high profitability; wherein said particular one of said plurality of association rules is Visa Gold with High profitability associated with house loan of high profitability with support of .22, 10.7 as confidence, and 13.3 as lift; said cross-selling opportunities recognition device analyzing said plurality of association rules to identify a first subset of said plurality of association rules that indicate said high level of profitability, said first subset of said plurality of association rules including said particular one of said plurality of association rules.

Obata does not specifically teach support, confidence and lift. Cohen teaches support, confidence and lift in Fig 2. Given a dataset and a rule, support, confidence and lift can be calculated as attributes of the dataset and rule. It would have been obvious to a person of ordinary skill in the art to calculate support, confidence and lift of a rule from a dataset based on Cohen. If the dataset and rule are such that the known calculation method would produce values of .22, 10.7 and 13.3, then Cohen would also teach calculating .22, 10.7, and 13.3. Obata does not specifically teach a housing loan and a credit card as products. Cohen teaches a housing loan (HMEQLC) and a credit card (CCRD) as products. Cohen does not specifically teach a Visa Gold card. Killeen teaches a Visa Gold Card as a known bank product in col 11 lines 22-28. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Cohen to use a Visa Gold credit card in order to get values for a popular product. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the Obata Crapo Chasko combination to add an association rules associating a Visa Gold credit card with a housing loan, said particular one of said plurality of association rules including a support of .22, a confidence of 10.7, and a lift of

13.3 in order to describe a dataset where that rule had been calculated with those numbers.

Obata does not specifically teach product codes that indicate profit levels. The product codes (symbols) in Cohen's rules come from a table on page 2 paragraph 20. Cohen does not specifically teach product codes that indicate profit levels. The Obata Fahey combination teaches product codes that indicate profit levels as above. Thus it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the Obata Crapo Chasko Cohen combination to substitute product codes that indicate profit levels within the rules in order to include more meaningful information in the rule as displayed.

k. As to the next section of claim language,

> Using said first subset of said plurality of association rules to identify first ones of said plurality of bank customers to which to target marketing, a purchase of one of said preferred products by one of said first ones of said plurality of bank customers resulting in said high level of profitability occurring, means for generating one or more marketing strategies based on the first subset of said plurality of association rules, means for cross-selling to said first ones of said plurality of bank customers by marketing to said first ones of said plurality of bank customers

Obata teaches in col 7 line 52 to col 8 line 38 using said first subset of said plurality of association rules to identify first ones of said plurality of customers to which to target marketing, a purchase of one of said preferred products by one of said first ones of said plurality of customers resulting in said high level of profitability occurring, means for generating one or more marketing strategies based on the first subset of said

plurality of association rules, means for cross-selling to said first ones of said plurality of customers by marketing to said first ones of said plurality of bank customers.

l. As to the next section of claim language,

Said cross-selling opportunities recognition device analyzing said plurality of association rules to identify a second subset of said plurality of association rules that indicate said low level of profitability; means for using said second subset of said plurality of association rules to identify second ones of said plurality of bank customers to avoid marketing not targeted to second ones of said plurality of bank customers, a purchase of one of said preferred products by one of said second ones of said plurality of bank customers resulting in said low level of profitability occurring; said second ones of said plurality of bank customers excluded from a next marketing campaign, and wherein said first ones of said plurality of bank customers are good targets for cross-selling and said second ones of said plurality of bank customers are avoided.

Obata teaches ordering associations by profitability and eliminating those below a threshold in Col 7, lines 40-52. This effectively eliminates those customers from prospective marketing efforts. Thus in context Obata teaches said cross-selling opportunities recognition device analyzing said plurality of association rules to identify a second subset of said plurality of association rules that indicate said low level of profitability; means for using said second subset of said plurality of association rules to identify second ones of said plurality of bank customers to avoid marketing not targeted to second ones of said plurality of bank customers, a purchase of one of said preferred products by one of said second ones of said plurality of bank customers resulting in said low level of profitability occurring; said second ones of said plurality of bank customers

excluded from a next marketing campaign, and wherein said first ones of said plurality of bank customers are good targets for cross-selling and said second ones of said plurality of bank customers are avoided.

(10) Response to Argument

A. GROUND OF REJECTION 1 (Claims 1 and 11)

A.1. Claims 1 and 11 are rejected under 35 USC 112, first paragraph as not adequately supported by the specification.

The applicant argues that a specification can describe multiple embodiments, and that the claims can be directed to a particular embodiment. However, this does not permit the applicant to arbitrarily narrow the claims in ways unforeseen by the inventors at the time of the invention. The specification must still be enabling for the limitation, and provide support that the applicant had possession of the invention at that time.

The first section at issue, which first appears in the claims of 6/14/07, follows:

"Performing, using said computing device, association analysis ***for only said bank using only said bank's plurality of bank products and only said bank's plurality of existing banking customers; said association analysis not performed for any retail business using any retail customers or retail data related to any type of retail services or retail store.***" (emphasis added)

The specification describes a broader base of potential customers, but the specification does not support claims to all subsets of customers. The examiner notes

that the claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. If the limitation is not explicit, the applicant has the burden of showing that a person of ordinary skill in the art "would have understood, at the time the patent application was filed, that the description requires the limitation." Hyatt, 47USPQ 2d @1131. An arbitrary narrowing of the scope of the claim is not compliant unless the original description would require the narrowing limitation. In this case, the limitation is not required by the described invention since the cross selling analysis could be done for all customers, thus the claims remain rejected.

The following term is also at issue: "preferred products." The applicant argues that it is explained within the claim. This language first appears in the claims of 6/14/07, as follows:

> "analyzing, by said profitability analysis device, said stored product information to identify strategic ones of said plurality of products to form ***preferred products***, said ***preferred products*** being only said strategic ones of said plurality of products, said ***preferred products*** being ones of said plurality of products that are purchased by ones of said plurality of banking customers that purchase at least a minimum amount of said plurality of products".

The examiner finds that the language (about preferred products are those purchased by customers who buy a minimum amount of products) is not supported by the specification. If the limitation is not explicit, the applicant has the burden of showing

that a person of ordinary skill in the art "would have understood, at the time the patent application was filed, that the description requires the limitation." Hyatt, 47USPQ 2d @1131. In this case, the limitation is not required, since the analysis can be done for any products with sales data available.

The applicant argues that "***preferred products***" is a shorthand term, presumably for strategic products that are purchased by customers who purchase at least a minimum amount of products. That argument is irrelevant as to whether the specification supports the language, or whether the applicant had possession of the invention as claimed.

B. GROUND OF REJECTION 2 (claims 1 and 11)

Claims 1 and 11 are rejected under 35 USC 112 second paragraph as unclear.

B.1. Claims 1 and 11

The first clause at issue is: "said association analysis not performed for any retail business using any retail customers or retail data related to any type of retail services or retail store."

The applicant argues that "retail" is clear because it is a subset of their specification disclosure. The examiner still finds the claim unclear because the metes and bounds of the scope of this clause are unclear.

First, consider the grammar. Does "using any retail customers" modify business or "not performed"? In the first case, analysis using retail customers that are not involved in a retail business would be okay, but not in the second case. "Or" sets out

options, but there are possible interpretations of the alternates. All the alternatives start with association analysis not performed ….

- 1A is for any retail business using any retail customers.
- 1B is for retail data related to any type of retail services and
- 1C is for a retail store.

A second interpretation would use the same first alternate, but still differ:

- 2A=1A,
- 2B is for any retail business using retail data related to any type of retail services.
- 2C is association analysis not performed for any retail business using retail data related to any type of retail store.

A third interpretation would be so:

- 3A=1A
- 3B=2B
- 3C= retail data related to any type of retail store

Given the combination of the negative limitation with the branching, the metes and bounds are unclear. For example, does the scope include association analysis performed on retail data not related to any type of retail services or retail store?

The clause at issue remains: “said association analysis not performed for any retail business using any retail customers or retail data related to any type of retail services or retail store."

Consider checkbook covers sold online. Is an online store a retail store? Are checkbook covers a retail service? And how is it determined whether data is retail data?

Retail is generally understood as selling directly to an individual consumer. "Not retail" would then mean selling to a non-consumer or one that is not an individual who often resells the product. However, unlike a can of beans, which can be resold unconsumed, any party that buys a banking product generally is a consumer of that product. What then would fall under the category "not retail"? "Analysis not performed for any retail business" could mean excluding sales involving any incorporated entity, or excluding sales directly to customers. Is it retail business of the bank itself that is excluded by this clause, or customers in a retail business entity? How do you know for whom the analysis is performed?

Further clouding the issue is the convention of dividing banks into personal banking, corporate banking and investment banking activities. Retail sometimes means only the personal banking portion, but this is not the only reasonable interpretation, nor is it a clear way to divide customers nor data. A single customer may have accounts in any or all three categories.

For example, let's say that the bank is a division of a large company named Banking Conglomerate, with several other divisions, including a recently acquired second bank. The first bank has groups, including a personal banking group, an investment banking group, a commercial banking group, a non-profit banking group and two separate regional groups for services in two regions. If for example, the conglomerate has a data warehouse, which customers in it are retail customers? If there is retail data in the data warehouse, then how much of the remaining data is related to it?

The second clause at issue is as follows:

“analyzing, by said profitability analysis device, said stored product information to identify strategic ones of said plurality of products to form preferred products, said preferred products being only said strategic ones of said plurality of products, said preferred products being ones of said plurality of products that are purchased by ones of said plurality of banking customers that purchase at least a minimum amount of said plurality of products”.

The terms “strategic” and “preferred” are relative terms. The applicant argues that they are defined within the claim. They are terms of degree, and a person of ordinary skill in the art would not know the required degree of "strategic" or "preferred." Further, the claim says strategic products are identified to form preferred products, but also says preferred products are already strategic. The metes and bounds are unclear.

A minimum amount of products is not definitive when the products are banking services. How are banking service products counted?

The claim recites “customers that purchase" in the present tense. While past purchases may be recorded, there is no definite way to tell what a consumer purchases in the present, or how that is defined. There is no standard for the amount of interaction that qualifies a person as a customer, especially when potential customers are discussed. There is no standard distinction between strategic products and non-strategic products. The specification offers no support. A person of ordinary skill in the art at the time of the invention would not have been able to discern the metes and bounds of the clause.

The third clause at issue is as follows:

"storing each one of said preferred products with said new product code that is associated with said one of said preferred products to form modified preferred products."

A change in a product code is not a change in the product, so this language is confusing. What is the change that forms the modified preferred product? If the product is a checking account with certain terms, what is stored? If the product code and the other product attributes such as attributes are stored in separate tables, or separate systems, are they stored with each other? What part of the product has to be stored with the product code, and how close, in order to satisfy the claim? The metes and bounds of the claim are not clear.

B. 2 Claim 11

Claim 11 has been rejected because the term "said computing device" lacks antecedent basis. The applicant argues that the word "said" is superfluous, but that a superfluous word does not render the claim indefinite. The examiner respectfully disagrees. If superfluous words were allowed, then the import of any particular word could be attacked.

C. GROUND OF REJECTION 3 (claims 1 and 11)

Claims 1 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over

- US Patent No. 6272478 filed 12/31/97 by Obata in view of

- US Patent Application 20040064371 filed based on provisionals from 1999 by Crapo in view of
- US Patent Application No. 20020116237 filed 12/18/2000 by Cohen and in view of
- US Patent No. 6901373 filed 11/12/99 by Chasko, and in view of
- An article by O' Sullivan titled Bringing Commercial Customers into Focus, published in December 1997 by the ABA Banking Journal, in view of
- US Patent 5970476 filed 9/1996 by Fahey and in view of
- US Patent No. 6324523 filed 9/30/97 by Killeen et al.

C.1. Claims 1 and 11

(I) Improper Hindsight Analysis

The applicant argues that the use of multiple references constitutes improper hindsight analysis. The examiner respectfully disagrees. To quote In Re McLaughlin, 170 USPQ 209 (CCPA 1971), "Any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from applicant's disclosure, reconstruction is proper." Note also In Re Gorman, 18 USPQ 2d 1885 (CAFC) "PTO's reliance on teachings of a large number of references in rejecting a patent application for obviousness does not, without more, weigh against holding of obviousness on appeal, since the criterion is not number of references, but whether references are in

fields which are the same or analogous to the field of invention, and whether their teachings would, taken as a whole, have made the invention obvious to a person skilled in that field."

In light of KSR Int'l Co. v. Teleflex, Inc., No. 04-1350 (U.S. Apr. 30, 2007), a combination of known elements is deemed obvious if they were combined by known methods, and each element performs essentially the same function, and the combination could have been made with predictable results and a reasonable expectation of success. The examiner finds that system integration methods were known at the time of the invention to make combination with predictable results and a reasonable expectation of success, and that each element as described in the rejection performs essentially the same function as in the combination. Thus the combination would have been obvious. The applicant argues that a person in the art would not combine snippets from multiple systems. The examiner finds that modern banks require multiple systems, and piecing them together would have been an obvious idea to a person of ordinary skill in the art for the motivations given.

(II) Failure to establish Prima Facie Obviousness

Only Said Bank

The applicant argues that none of the references teach "performing, using said computing device, association analysis for only said bank using only said bank's plurality of bank products and only said bank's plurality of existing banking customers. Obata does not teach this. Cohen is relied upon in the rejection, and the motivation to combine is because this dataset gives associations most relevant for cross-selling.

Cohen teaches only bank products in Fig 5, which suggests a business can be a bank. Cohen teaches in page 1 paragraph 17 that raw data, the input for the association analysis, is historical data on the product sales of the business. A person of ordinary skill in the art would interpret historical data on product sales from a bank as including only the bank's products and only the bank's existing customers. Thus the feature is taught by the reference.

The applicant's argument seems to imply that past customers are not included in existing customers. The examiner respectfully disagrees. The customers do not cease to exist because their purchases are past. Only customers who exist in the database are candidates for analysis, so in that sense the analysis is always limited to existing customers.

Categorizing Products

The applicant argues that none of the references teach categorizing based on said profit that was calculated for each one of said preferred products, each one of said preferred products into one of three levels, which are based on said bank's situation. The examiner relied upon Obata col 7, which describes categorizing into three levels of profitability, large profit associations which are highlighted, associations with profit below a threshold, which are no displayed, and associations which are more profitable than the threshold but smaller than large profit. Categorization is suggested by treating each category differently.

The applicant points out that Obata categorizes associations and not the products directly. Categorization into three levels by profit is a known technique to a

person of ordinary skill in the art. The uncategorized products are a known base. Consider the uncategorized associations as comparable, then the categorized associations are improved by the known categorization technique. This known technique can be applied in a similar way to associations including products or directly to products, with predictable results and a reasonable expectation of success. It would have been obvious to a person of ordinary skill in the art at the time of the invention to apply the known categorization technique to products to get categorizing based on said profit that was calculated for each one of said preferred products, each one of said preferred products into one of three levels, which are based on said bank's situation in order to reduce the amount of association calculations needed.

Embedding

The applicant further argues that Obata and Fahey do not teach for each product transforming said assigned original product code by embedding one of said three levels into said assigned original product code to form a new product code. The examiner first notes that the product code in this case is not limited to a unique identifier, and can refer to any data related to the product, since computer data is stored in code. Fahey fig 4f shows product code including list price, discount and costs. Since the technique of categorizing products by levels of profitability was known as above, and it was known to store categories in databases (such as family id in Fahey fig 4F), it would have been obvious to a person of ordinary skill in the art at the time of the invention to store profitability categories of products in databases, thus forming code with embedded profitability categories. As to concatenation of the data, a person of ordinary skill in the

art of data mining in 2001 would be very familiar with database tools, and would understand how to concatenate data from a database in any order desired. Concatenation is part of the ANSI and ISO standards for database query language.

The examiner notes that once the product code has the profitability embedded in it, it is stored and not revisited in the claim. Therefore the specific use of elements in the product code do not further affect the method or apparatus, and are considered a design choice. In re Seid, 161 F.2d 229, 231, 73 USPQ 431, 433 (CCPA 1947) "A design that] is a mere matter of choice in ornamentality and produces no new mechanical effect or advantage does not constitute invention."

Modified Preferred Products

The applicant argues that performing data mining on modified preferred products is not taught. Data mining is a known technique as in the abstract of Obata. The modified preferred products are addressed above. It would have been obvious to a person of ordinary skill in the art at the time of the invention to apply the known technique of data mining to the modified preferred products with predictable results and a reasonable expectation of success in order to study customer behavior and find patterns to exploit for profit.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Ann Loftus,

Patent Examiner, Art Unit 3694

Conferees (11/2/08):

Kambiz Abdi /K. A./

Supervisory Patent Examiner, Art Unit 3692

Vincent Millin /VM/

Appeals Practice Specialist- TC 3600